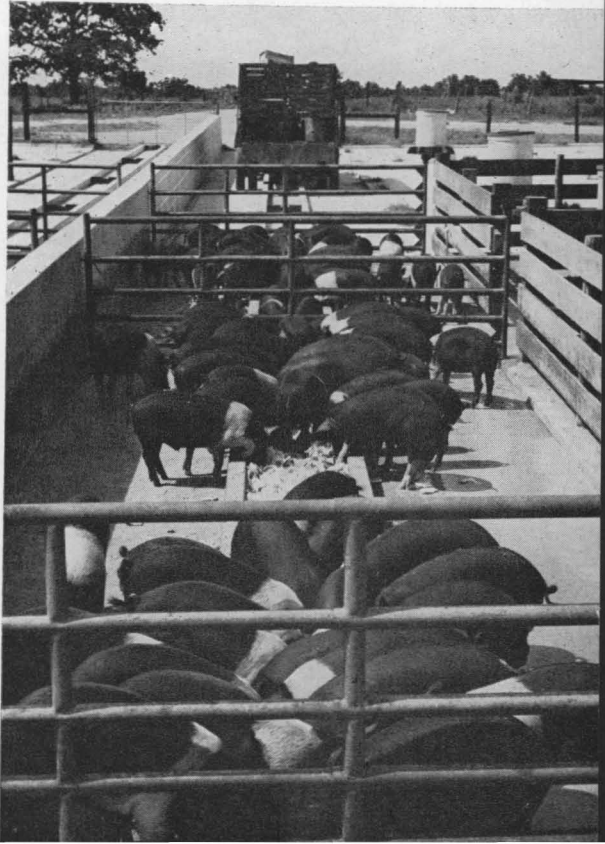
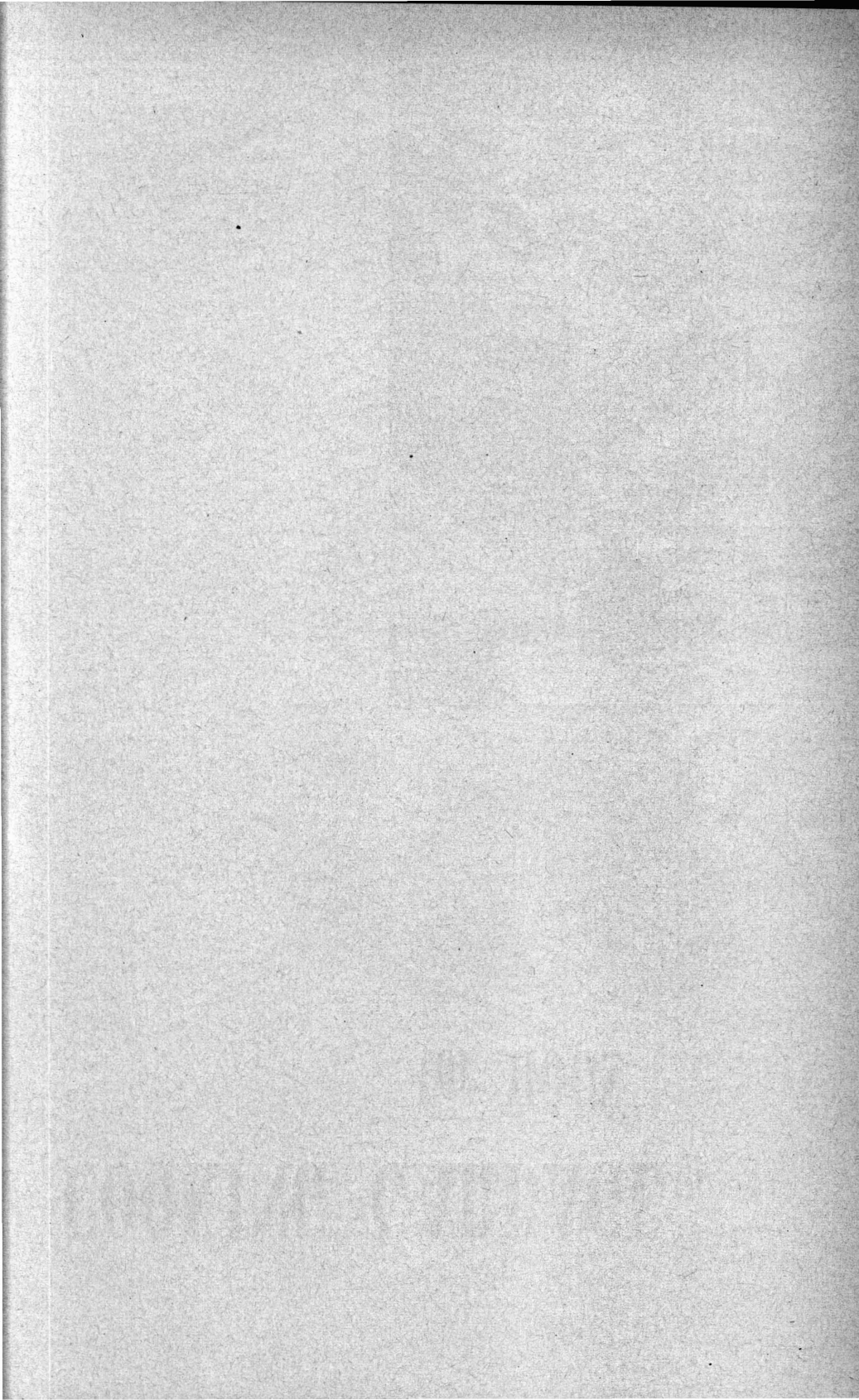


COOKING GARBAGE for HOGS



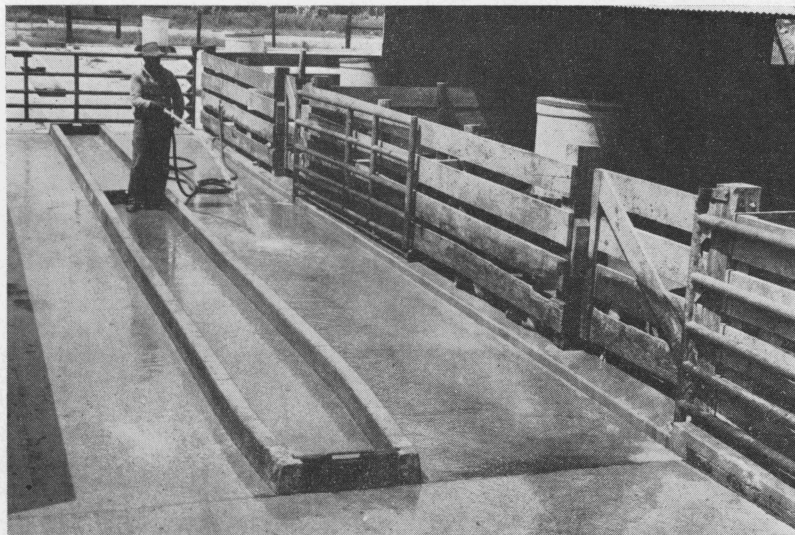


COOKING GARBAGE FOR HOGS

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TEXAS A. & M. COLLEGE SYSTEM*

Recent occurrences of vesicular exanthema among hogs has emphasized that feeding raw garbage spreads diseases. Feeders have asked for information as to the safest method of cooking this composition for feed. A summary of available information of the problem is assembled here, along with helpful suggestions. Little research is available on this subject at the present time.

Cooking for 30 minutes is the most direct means of destroying disease organisms in garbage. Stirring while heating will hasten the cooking process, and direct injection of steam also will aid in shortening the time for the heat to fully penetrate the mass. This is particularly true when numerous small steam outlets are installed near the bottom of the tank. Live steam injection, however, will form five to 15



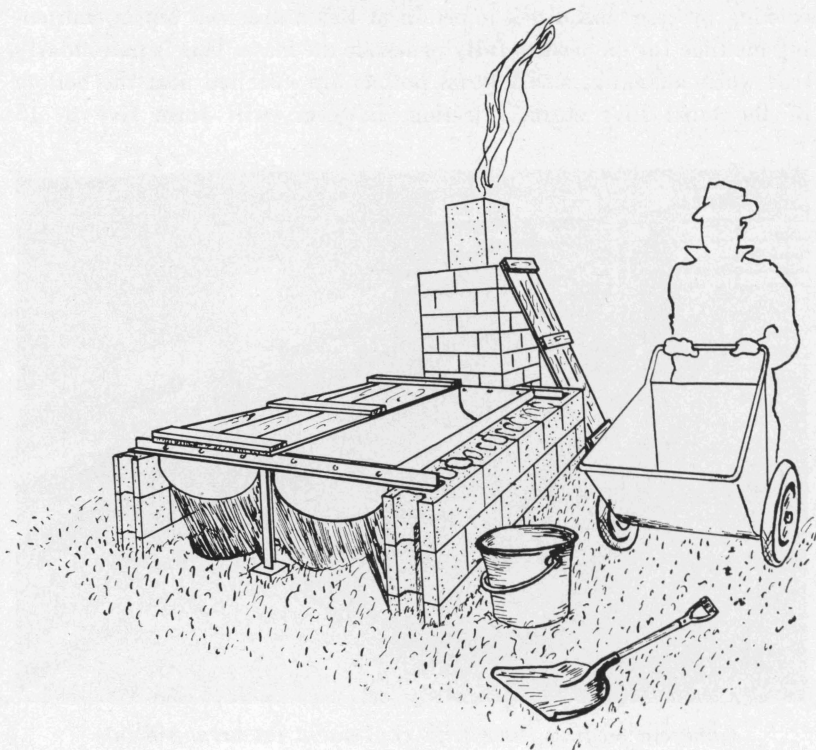
Concrete feeding floor with convenient lot arrangements.

gallons of water in bringing 100 gallons of garbage from room temperature to boiling. Moreover, since garbage is a variable product, the amount of water from condensation likewise varies.

Cooling the hot mass to a temperature at which hogs can eat it comfortably also must be considered. If the garbage is spread out to permit cool air to blow over it, the time required for cooling will be shortened. However, it should be protected against flies.

A concrete feeding floor with convenient lot arrangements is an important aid to a good garbage feeding setup. With concrete floors the lots and troughs can be kept clean, fly breeding places eliminated and a good sanitation program practiced.

Small quantities of garbage can be cooked with simple equipment. An old fashioned wash pot heated over an open fire will do the job. With the drawing of a furnace shown below the fire box can be made of stone, tile, brick or other masonry, and the tanks of oil drums cut



in two. Several drums can be welded end to end. A sliding door can be put on one end for removing the garbage or the material can be dipped out.

Feeders operating on a medium-to-large scale likely will want to use a steam method of cooking garbage. The convenience of cooking with steam may justify the expenditure for a boiler or a steam jenny.

STEAM GENERATOR SELECTION CHART FOR GARBAGE COOKING

*APPROXIMATE NUMBER OF MINUTES REQUIRED TO HEAT
GARBAGE FROM 52° F TO BOILING TEMPERATURE (212° F)
FOR VARIOUS TONS OF GARBAGE WITH VARIOUS SIZES
OF STEAM BOILER HORSEPOWER*

(For other temperatures, see correction value below)

Steam Generator Boiler HP	Quantity of Garbage To Be Cooked							
	1 Ton	2 Ton	3 Ton	4 Ton	5 Ton	6 Ton	7 Ton	8 Ton
15	30	60	90					
30	15	30	45	60	75	90		
50	9	18	27	36	45	54	63	72
75	6	12	18	24	30	36	42	48
100	5	9	14	18	23	27	32	36

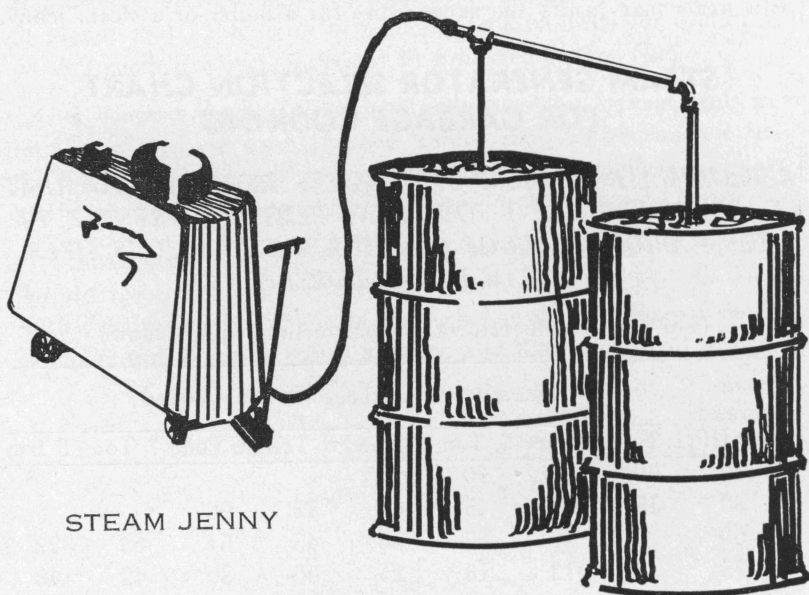
CORRECTION VALUE FOR OTHER TEMPERATURES. For each 10°F colder garbage at start, add 10% time to minutes required. For each 10°F warmer garbage at start, deduct 10% time from minutes required.

SUSTAINED COOKING TIME. In addition to the above heating time, an additional 30 minutes is required to meet the recommended cooking regulations. Steam boiler horsepower required for 30 minute cooking period will average 1.5 HP per 1 ton of garbage.

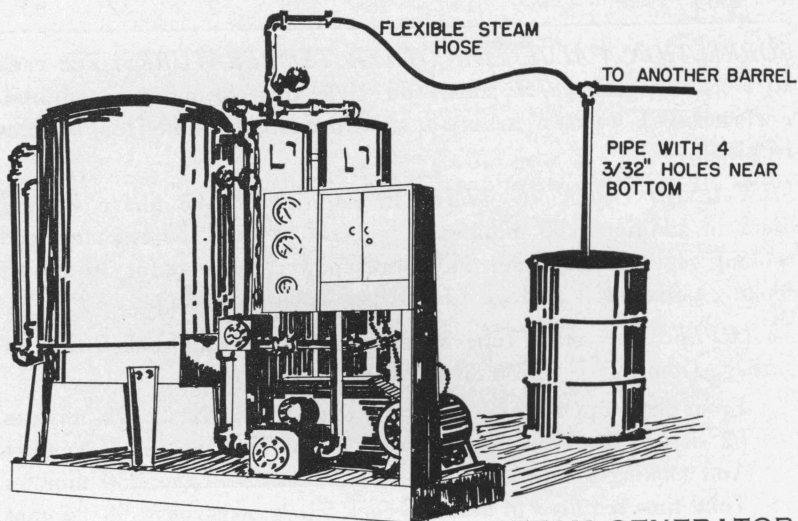
EXAMPLE: How much time is*required to heat and cook 5 tons of garbage from 62° F with a 30 HP steam generator.

From chart opposite 30 HP and 5 tons, read.....75 minutes
 62° is 10° above 52° so subtract 10% of 75..... 7 minutes
 Add cooking time.....30 minutes
 Total time required to heat and cook 5 tons of garbage 98 minutes

Garbage can be cooked in the original cans by rigging up a steam hose to a piece of galvanized pipe as shown in the accompanying drawing. The pipe should be plugged on the lower end and about four holes three thirty-secondths of an inch in diameter drilled into the lower inch of the pipe for the steam to escape.

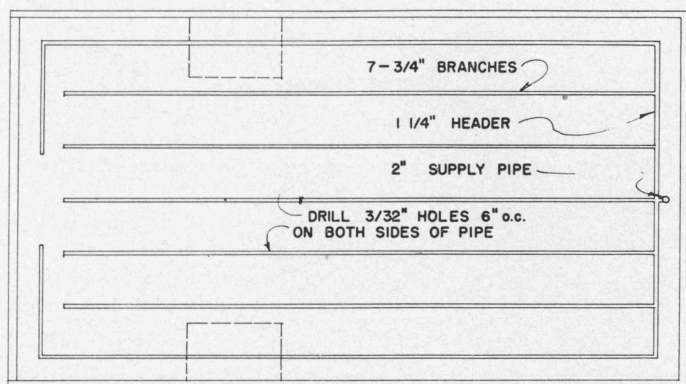
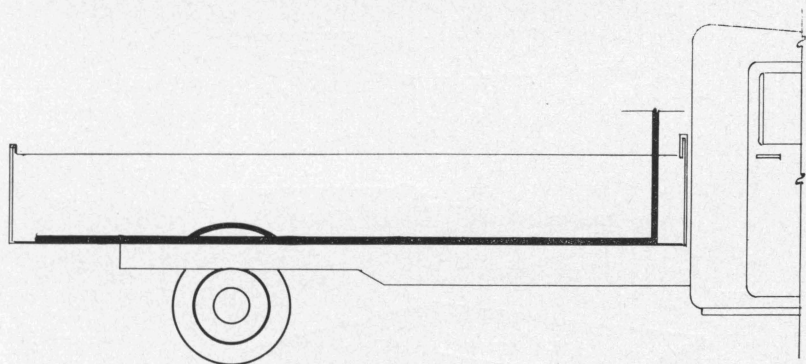


STEAM JENNY



STEAM GENERATOR

Some feeders may prefer to rig up a truck or trailer body so that the garbage can be dumped into the truck or trailer and cooked there. Perforated steam pipes can be laid on the bottom of the body with a steam hose connection to the supply line as shown below.

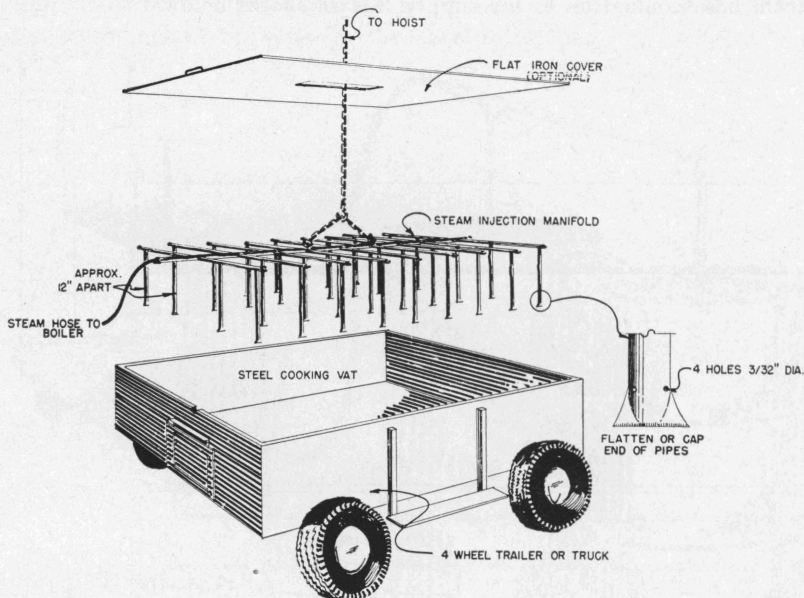


A series of perforated pipes can be rigged so that they can be inserted into a truck or trailer load of garbage. This type of rigging can be used to cook several loads of garbage, one after another. (See drawing on back cover.)

Those feeding large quantities of garbage may want to install vats where the material can be cooked under pressure while it is mechanically agitated. Such plants will use equipment similar to that used by rendering plants.

Inexperienced persons can start cooking garbage with simple

equipment. Experience will show whether it is advisable to install more expensive equipment; meanwhile manufacturers perhaps will perfect equipment that is suitable.



A tight fitting cover on all containers used for cooking garbage will increase efficiency.

CAUTION

Live steam is hazardous. Use care in handling all equipment employing steam for cooking garbage. Be sure to check couplings, clamps and hoses frequently and be sure all apparatus is properly set up before cooking each batch.

Cooperative Extension Work in Agriculture and Home Economics, The Texas A. & M. College System and United States Department of Agriculture cooperating. Distributed in furtherance of the Acts of Congress of May 8, as amended, and June 30, 1914.

5M 9-56, Reprint